

What is claimed is:

1. In a computer system, a method for sending a data element from a sending application in the computer system to a recipient application in the computer system, the method comprising the steps of: the sending application requesting the computer system to deliver the data element to the recipient application; the computer system adding the data element to an object; the computer system encoding the object containing the data element; the computer system unencoding the object; the computer system extracting the data element from the object; and the recipient application receiving the data element from the computer system.

2. The computer system of claim 1, wherein the sending and recipient applications are on separate computers connected via a network.

3. The method of claim 2, wherein the network comprises a message queuing network.

4. The method of claim 3, wherein the step of encoding the object includes requesting the object to serialize itself.

5. The method of claim 3, wherein the step of unencoding the object includes requesting a new instantiation of the object to load itself.

6. The method of claim 1, wherein the object includes a data structure and a method which performs an operation on the data structure.

10 7. The method of claim 1, wherein the object is a dictionary object.

8. The method of claim 1, wherein the object supports persistence.

15 9. The method of claim 8, wherein the step of encoding the object includes requesting the object to serialize itself.

10. The method of claim 1, wherein the data element includes a name, a type, and a value.

11. The method of claim 10, wherein the type of the data element is a constant, an integer, a document, a spreadsheet, a database, an object, or a data structure.

5 12. In a networked computer system, a method for sending a self-descriptive object from a first application to a second application, the first application running on a first computer and the second application running on a second computer, the first and
10 second computers interconnected via a network, the method comprising the steps of: the first application adding data to the self-descriptive object; the first computer transmitting the self-descriptive object to the second computer; the second computer receiving the
15 self-descriptive object; and the second application processing the data in the self-descriptive object based on the type of data.

13. The method of claim 12, further comprising the step of the first application requesting the first
20 computer to send the message to the second computer or to the second application.

14. The method of claim 12, further comprising the step of the second computer passing a pointer to the self-descriptive object to the second application.

15. The method of claim 12, wherein the
5 self-descriptive object includes a data structure and a method which performs an operation on the data structure.

16. The method of claim 12, wherein the self-descriptive object is a dictionary object.

10 17. The method of claim 12, wherein the self-descriptive object supports persistence.

18. The method of claim 12, wherein the data includes an element comprising a name, a type, and a value.

15 19. The method of claim 18, wherein the type of the data element is a constant, an integer, a document, a spreadsheet, a database, an object, or a data structure.

20. The method of claim 18, wherein the type of data is a spreadsheet; and the second application is a spreadsheet application or the spreadsheet application is invoked to process the data.

5 21. The method of claim 18, wherein the type of data is a document; and the second application is a word processing application or the word processing application is invoked to process the data.

10 22. The method of claim 12, wherein the network comprises a message queuing network.

23. In a message queuing network comprising a first and a second message queuing servers, a method for sending a self-descriptive object from the first message queuing server to the second message queuing server, the method comprising the steps of: the first message queuing server receiving a request to send the self-descriptive object from a first application; the first message queuing server creating a message which includes the self-descriptive object in its payload; 15 the first message queuing server transmitting the message over the message queuing network; the second 20

message queuing server receiving the message; and the second message queuing server extracting the self-descriptive object from the message.

24. The method of claim 23, further comprising the
5 step of the second message queuing server passing the self-descriptive object to a second application.

25. The method of claim 23, wherein the self-descriptive object includes a data structure and a method which performs an operation on the data
10 structure.

26. The method of claim 23, wherein the self-descriptive object is a dictionary object.

27. The method of claim 26, wherein the dictionary object includes an element comprising a name, a type,
15 and a value.

28. The method of claim 27, wherein the type of the element is a constant, an integer, a document, a spreadsheet, a database, an object, or a data structure.

29. The method of claim 23, wherein the self-descriptive object supports persistence.

30. The method of claim 23, further comprising the step of the first messaging computer serializing the
5 self-descriptive object.

31. A message queuing network comprising: a first message queuing server including means to receive a self-descriptive object, means to serialize the self-descriptive object, and means to transmit a
10 message containing the serialized self-descriptive message; and a second message queuing server including means to receive a message containing the serialized self-descriptive object, and means to unserialize the serialized self-descriptive object.

15 32. The message queuing network of claim 31, wherein the self-descriptive includes a data structure and a method which performs an operation on the data structure.

20 33. In a message queuing network comprising a first message queuing machine and a second message

queuing machine, a method for sending a
self-descriptive dictionary object from a sending
application to a recipient application, the method
comprising the steps of: the sending application
5 passing the dictionary object to the first message
queuing machine to deliver to the second message
queuing machine; the first message queuing machine
invoking a method of the dictionary object to serialize
the dictionary object; the first message queuing
10 machine sending the serialized dictionary object in a
message to the second message queuing machine; the
second message queuing machine instantiating and
loading the serialized dictionary object into an
unserialized dictionary object; and the second message
15 queuing machine passing the unserialized dictionary
object to the recipient application.

34. The method of claim 33, further comprising the
steps of: the sending application adding a data
element to the dictionary object, the data element
20 including an identifier, a type, and a value; and the
recipient application enumerating the data element from
the dictionary object, and processing the data element
based on its type.

35. The method of claim 34, wherein the type of the data element is a constant, an integer, a document, a spreadsheet, a database, an object, or a data structure.

5 36. The method of claim 33, wherein the dictionary object includes a data structure and a method which performs an operation on the data structure.

37. A computer-readable medium having computer-executable instructions for performing steps for
10 sending a data element from a sending application in a computer system to a recipient application in the computer system, the steps comprising: the sending application requesting the computer system to deliver the data element to the recipient application; the
15 computer system adding the data element to an object; the computer system encoding the object containing the data element; the computer system unencoding the object; the computer system extracting the data element from the object; and the recipient application
20 receiving the data element from the computer system.

38. The computer-readable medium of claim 37,
wherein the sending and recipient applications are on
separate computers connected via a network.

39. The computer-readable medium of claim 38,
5 wherein the network comprises a message queuing
network.

40. The computer-readable medium of claim 38,
wherein the object includes a data structure and a
method which performs an operation on the data
10 structure.

41. The computer-readable medium of claim 38,
wherein the object is a dictionary object.

42. The computer-readable medium of claim 38,
wherein the object supports persistence.

43. The computer-readable medium of claim 38,
15 wherein the data element includes a name, a type, and a
value.

44. The computer-readable medium of claim 43,
wherein the type of the data element is a constant, an

integer, a document, a spreadsheet, a database, an object, or a data structure.

45. A computer-readable medium having computer-executable instructions for performing steps in a
5 networked computer system for sending a self-descriptive object from a first application to a second application, the first application running on a first computer and the second application running on a second computer, the first and second computers
10 interconnected via a network, the steps comprising: the first application adding data to the self-descriptive object; the first computer transmitting the self-descriptive object to the second computer; the second computer receiving the
15 self-descriptive object; and the second application processing the data in the self-descriptive object based on the type of data.

46. The computer-readable medium of claim 45, having further computer-executable instructions for
20 performing the step of the first application requesting the first computer to send the message to the second computer or to the second application.

47. The computer-readable medium of claim 45,
wherein the self-descriptive object includes a data
structure and a method which performs an operation on
the data structure.

5 48. The computer-readable medium of claim 45,
wherein the self-descriptive object is a dictionary
object.

49. The computer-readable medium of claim 45,
wherein the self-descriptive object supports
10 persistence.

50. The computer-readable medium of claim 45,
wherein the data includes an element comprising a name,
a type, and a value.

51. The computer-readable medium of claim 50,
15 wherein the type of the data element is a constant, an
integer, a document, a spreadsheet, a database, an
object, or a data structure.

52. The computer-readable medium of claim 50,
wherein the type of data is a spreadsheet, and having
20 further computer-executable instructions for performing

the step of the second application invoking a spreadsheet application.

53. The computer-readable medium of claim 50, wherein the type of data is a document, and having further computer-executable instructions for performing the step of the second application invoking a word processing application.

54. The computer-readable medium of claim 45, wherein the network comprises a message queuing network.

55. A computer-readable medium having computer-executable instructions for performing steps for sending a self-descriptive object from a first message queuing server to a second message queuing server in a message queuing network, the steps comprising: the first message queuing server receiving a request to send the self-descriptive object from a first application; the first message queuing server creating a message which includes the self-descriptive object in its payload; the first message queuing server transmitting the message over the message queuing

network; the second message queuing server receiving the message; and the second message queuing server extracting the self-descriptive object from the message.

5 56. The computer-readable medium of claim 55 having further computer-executable instructions for performing the step of the second message queuing server passing the self-descriptive object to a second application.

10 57. The computer-readable medium of claim 55, wherein the self-descriptive object includes a data structure and a method which performs an operation on the data structure.

15 58. The computer-readable medium of claim 55, wherein the self-descriptive object is a dictionary object.

59. The computer-readable medium of claim 58, wherein the dictionary object includes an element comprising a name, a type, and a value.

60. The computer-readable medium of claim 59, wherein the type of the element is a constant, an integer, a document, a spreadsheet, a database, an object, or a data structure.

5 61. The computer-readable medium of claim 55, wherein the self-descriptive object supports persistence.

62. The computer-readable medium of claim 55 having further computer-executable instructions for
10 performing the step of the first messaging computer serializing the self-descriptive object.

63. A computer-readable medium having computer-executable instructions for performing steps for sending a self-descriptive dictionary object from a
15 sending application to a recipient application in a message queuing network comprising a first message queuing machine and a second message queuing machine, the steps comprising: the sending application passing the dictionary object to the first message queuing
20 machine to deliver to the second message queuing machine; the first message queuing machine invoking a

method of the dictionary object to serialize the dictionary object; the first message queuing machine sending the serialized dictionary object in a message to the second message queuing machine; the second
5 message queuing machine instantiating and loading the serialized dictionary object into an unserialized dictionary object; and the second message queuing machine passing the unserialized dictionary object to the recipient application.

10 64. The computer-readable medium of claim 63, having further computer-executable instructions for performing the steps of: the sending application adding a data element to the dictionary object, the data element including an identifier, a type, and a
15 value; and the recipient application enumerating the data element from the dictionary object, and processing the data element based on its type.

20 65. The computer-readable medium of claim 64, wherein the type of the data element is a constant, an integer, a document, a spreadsheet, a database, an object, or a data structure.

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